From glowbugs@theporch.com Fri Nov 8 16:58:23 1996
Return-Path: <glowbugs@theporch.com>
Received: from uro (localhost.theporch.com [127.0.0.1]) by uro.theporch.com
(8.8.2/AUX-3.1.1) with SMTP id QAA00444; Fri, 8 Nov 1996 16:50:54 -0600 (CST)
Date: Fri, 8 Nov 1996 16:50:54 -0600 (CST)
Message-Id: <Pine.A41.3.95.961108153352.64358A-100000@fn2.freenet.edmonton.ab.ca>
Errors-To: conard@tntech.campus.mci.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 346
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
Content-Type: TEXT/PLAIN; charset=US-ASCII
Mime-Version: 1.0
Status: O

GLOWBUGS Digest 346

Topics covered in this issue include:

Date: Thu, 7 Nov 1996 19:38:30 -0500 (EST)
From: jlevro@shore.net (John Levreault)
To: jkh@lexis-nexis.com
Cc: glowbugs@theporch.com
Subject: Re: Regen Plans
Message-ID: <199611080038.TAA28038@relay1.shore.net>

>Folks,
>Now that Bob Keys has secured permission from ARRL to use QST plans I might be allowed
>to suggest an early entry to the database. I don't have any facility for scanning but
>Bob or someone else might do the honors. You may be familiar with a nice little book
>that every glowbugger(no pun intended 8^) should have is Ed Romney's " Fixing Up Nice
>Old Radios". Freds father was, evidently, an old time radio man, as is Fred, and he
>has a wealth of experience to share. His book is not particularly well

organized as
>a tutorial but it's full of interesting glowbug stuff and pictures of old
radios. Lots
>of info on old regens, too. One of the plans in the book Ed says was his
fathers fav-
>orite two tube regen set and it happens to be a design taken directly from
QST. It
>seems to be from a late '30s edition. Ed reproduced the QST plans with
"Courtesy QST"
>appended. This radio uses a 6C6 or 6D6 detector and a 76 audio amp and
tunes from 1.2
>mc to 4.7mc using 5 coils. It employs screen grid regeneration with a
tapped coil
>rather than a tickler. Like I said, I don't know which ARRL handbook this
came from
>but it might be an interesting addition to the plans repository.
>
>

I think I have that article. It's on page 102 of the 1939 RAH, entitled, oddly enough, "A Two-Tube Regenerative Receiver". It doesn't say what issue of QST, though. The article runs 5 pages in the HB. The frequency range is actually 1.2 to 47Mc, as they used to call 'em in those days.

Unfortunately, no scanner here. Any help?

73 de NB1I
John Levreault

Date: Thu, 7 Nov 1996 21:25:40 -0600 (CST)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: Jeff Duntemann <jeffd@coriolis.com>
Cc: Multiple recipients of list <glowbugs@theporch.com>
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <Pine.ULT.3.95.961107212125.1719A-100000@admin.aurora.edu>

On Thu, 7 Nov 1996, Jeff Duntemann wrote:

> One caution: The "series-string" tubes with weird filament voltages weren't
> intended for battery service and would put a serious draw on a battery; I
> would guess close to half an amp for three tubes continuous, just to light
> them up. On second thought, if I remember my TV theory (and I never knew
> that much of it) the current through those tubes passes through *all* the
> tubes in the string, so the smaller tubes have to pass just as much as the
> bigger sweep tube and audio power amp. I wouldn't therefore be surprised if

> even a small 7-pin miniature model needed half an amp to light properly.

It was quite common to find series/parallel conbination of filament
wiring. For example say you had 3 tubes with 150ma filaments and
one of 450ma. You would put the three 150ma jobs in parallel and
put that combination in series with the 450ma tube.

Most of the tubes that I believe are being talked about here are the
150 to 300ma variety.

If you are talking putting filaments in series, if you are considering
"battery" tubes with directly heated cathodes (1T4, 3V4, etc. types)
remember that you have to pay attention to bias which is the grid in
reference to the filament, not a separate cathode.

        E-mail broehrig@admin.aurora.edu   73 de Bob, K9EUI
            CIS: Data / Telecom   Aurora University, Aurora, IL

Date: Thu, 7 Nov 1996 20:38:25 -0800
From: mjsilva@ix.netcom.com (michael silva)
To: glowbugs@theporch.com
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <199611080438.UAA20574@dfw-ix7.ix.netcom.com>

Regarding oddball series-string tubes, the three common current ratings
are 300mA, 450mA and 600mA. With a 12-24v filament transformer and
some small "adjustment" resistances a person could easily get an entire
rig running with somebody else's throwaways.

>Another odd note here: AES sells a socket adapter kit that lets you
replace
>the 6E5 style magic eye tubes with the cheaper 1629's. The only real
>difference is in the basing.

Also the 1629 has a 12 volt heater, vs. 6 volts on the 6E5. The AES
adaptor presumably has a small transformer built into it to produce the
right voltage. I've also seen discussions of using a (sand diode)
voltage doubler to run a 1629 on a 6v system. The filter caps are
chosen to have the right amount of ripple to produce a 12v rms output
from the 15-16v peak.

73,
Mike, KK6GM

Date: Thu, 7 Nov 1996 21:01:17 -0800 (PST)
From: Dave <kenwood@nwlink.com>
To: glowbugs@theporch.com
Cc: kenwood@nwlink.com
Subject: Update on gutting amplifier...
Message-ID: <199611080501.VAA00561@montana.nwlink.com>

Hi gang,

Thanks for all the input on whether to 'gut the amp' or not. The 'Save The Amp' crowd has won!!! I've been convinced to keep it just as it is, since it is a functioning glow-in-the-dark-object (GITDO) and somewhat hard to come by.

Larry in Maine has convinced me that an old chassis he is selling to me would make a much finer RF box, and my amp could become a modulator for the local 75m AM net that hogs space around here on the weekends.

He has suggested using the output transformer as a 'Heising Choke' to modulate my transmitter. I no longer have any old handbooks of the FireBottle era, so maybe someone could fill me in as to how that is done. The transformer is a standard low wattage output job with 4 ohm, 8 ohm, and 25volt outputs designed for driving speakers directly. It's a little on the overkill side as a receiver audio stage (!), so I was thinking along the lines of modulator.

Any tips would be appreciated.

73's

Dave

gekko@nwlink.com
kenwood@nwlink.com (at work)

* * * *

"Sure it's 1939 technology...but it's GOOD 1939 technology"

Date: Fri, 8 Nov 1996 04:52:26 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: okasb@rex.mtv.gtegsc.com (Bob Okas), glowbugs@theporch.com

Subject: Re: Re[2]: UY227, and other tubes for regen service
Message-ID: <199611081250.HAA14578@user2.mnsinc.com>

Is there an American equivallent for the ECL86 triode=pentode?
I just acquired two of them and they look like they would make a
dandy miniature 5-10 watt CW xmtr.
****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Fri, 08 Nov 1996 14:45:00 -0800 (PST)
From: Rossi Giuseppe <g.rossi@crf.it>
To: glowbugs <glowbugs@theporch.com>
Subject: R: 1624
Message-ID: <3283B89C@pced01.crf.it>

Da: glowbugs[SMTP:glowbugs@theporch.com]
Inviato: giovedi 7 novembre 1996 23.03
A: Multiple recipients of list
Oggetto: Re: 1624

unsubscribe glowbugs

Date: Fri, 8 Nov 1996 09:06:17 -0500 (EST)
From: "Peter C. Wotherspoon" <Peter.C.Wotherspoon@hydro.on.ca>
To: rdkeys@csemail.cropsci.ncsu.edu
Subject: Re: 1624
Message-ID: <Pine.SUN.3.91.961108084439.9670E-100000@strong.Hydro.ON.CA>

Bob
Its fascinating the path a conversation takes.
The tubes I'm interested in are 1T4 3v5 set.
And someone got to them in the list.
So I told ya the possibility was slim.
I want to build a 1 tuber with my 11 yr old.
I think/know the glowing tube and glass will evoke more mystery and
romance that sand.

Bye the way, isn't is wierd that the most plentyful substance on the
planet is silicon dioxide, and thats what has infected our lives so
insideously.
Peter..

On Thu, 7 Nov 1996 rdkeys@csemail.cropsci.ncsu.edu wrote:

> > This may sound bold, Bob,
> > but I recall the magic-eye as being a 1624.
> >
> > The chances of me being right are slim.
> > Its just a memory, cuz I always thought of the 1625 when I say them.
>
> Well, maybe I have it all messed up. I am shooting from the hip, here,
> and would have to go back and check my manuals, tonight. If it is the
> size of an 807 then that is the one I am talking about. If it has a
> window top with a phosphor screen for the magic-eye or such, then I
> am all wet and need another cold 807 to get me wits straight.
>
> Somewhat puzzled..... Bob/NA4G
>

Date: Fri, 8 Nov 1996 09:21:08 -0500 (EST)
From: jlevro@shore.net (John Levreault)
To: bry@mail1.mnsinc.com
Cc: glowbugs@theporch.com
Subject: Re: Re[2]: UY227, and other tubes for regen service
Message-ID: <199611081421.JAA22538@relay1.shore.net>

>Is there an American equivallent for the ECL86 triode=pentode?
>I just acquired two of them and they look like they would make a
>dandy miniature 5-10 watt CW xmtr.
>***
>*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
>** E-mail to: bry@mnsinc.com   *
>*** See the great ham radio resources at: *
>** http://www.mnsinc.com/bry/   *
>***
>
>

Yes, the 6GW8, according to the GE Essential Characteristics.

73 de NB1I

John Levreault

Date: Fri, 8 Nov 1996 10:17:46 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: okasb@rex.mtv.gtegsc.com
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Re[2]: UY227, and other tubes for regen service
Message-ID: <9611081517.AA111439@csemail.cropsci.ncsu.edu>

> Bob, NA4G, wrote:
>
> >Almost any mini 9 pin tube that ends in 8 is likely to be a dual triode.
> >There are some sleepers there worth looking at.
>
> Well, I hate to be pedantic, but a minor correction is in order.
> Most 9 pin tubes with numbers ending with an 8 are usually triode-
> pentode combinations, e.g. 6U8, 6EA8, 6AW8, etc. 9 pin tubes with
> numbers type numbers ending in *7* are the dual-triode type, for
> example: 12A*7, 6CG7, etc.

Yeah, it were a typeo, although there are many 9 pin dual triodes that end in 8 also, but most end in 7.

The xxxxx7 series is:

6AX7, 7AU7, 9AU7, 12AD7, 12AE7, 12AK7, 12AT7, 12AU7, 12AV7, 12AX7, 12AY7, 12AZ7, 12BH7, 12BZ7, 12DF7, 12DT7, 12DW7, 12U7, 5751, 5814, 5963, 5965, 6057, 6060, 6072, 6085, 6201, 6211, 6679, 6680, 6681, 7025, all pin for pin interchangeable.

The 6BX7 is another one, slightly different.

The 5687 is another one, slightly different.

The 5964 is another one, slightly different.

The 2C51 and 5670 are another pair, slightly different.

The 6BN7 is another one, slightly different.

The xxxxx8 series is:

4BC8, 4BQ7, 4BS8, 4BZ7, 4BX8, 4BZ8, 5BK7, 5BQ7, 5BS8, 6BC8, 6BK7, 6BQ7, 6BS8, 6BX8, 6BZ7, 6BZ8, 6CG7, 6FW8, 8CG7, all pin for pin interchangeable.

I have probably missed a few of the dual triodes but that is a bunch of them. All should work pretty well, in simple regen service.

73/ZUT DE NA4G/Bob UP

Date: Fri, 8 Nov 1996 10:22:52 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: bry@mail1.mnsinc.com
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Re[2]: UY227, and other tubes for regen service
Message-ID: <9611081522.AA111449@csemail.cropsci.ncsu.edu>

>
> Is there an American equivallent for the ECL86 triode=pentode?
> I just acquired two of them and they look like they would make a
> dandy miniature 5-10 watt CW xmtr.
>

That crosses to the 6GW8 tube in American numbering.

Bob/NA4G

Date: Fri, 8 Nov 1996 06:59:37 -0800
From: mjsilva@ix.netcom.com (michael silva)
To: glowbugs@theporch.com
Subject: What do the numbers mean? (was Re: UY227...
Message-ID: <199611081459.GAA27786@dfw-ix2.ix.netcom.com>

>Most 9 pin tubes with numbers ending with an 8 are usually triode-
>pentode combinations, e.g. 6U8, 6EA8, 6AW8, etc. 9 pin tubes with
>numbers type numbers ending in *7* are the dual-triode type, for
>example: 12A*7, 6CG7, etc.

For those who wonder about those trailing numbers, they do have a meaning. The number is the number of separate elements in the tube which are brought out to pins. Thus in a dual triode there are two cathodes, two plates, two grids and one heater (=7). A triode/pentode has all the above plus the pentode screen grid (=8). Note that the pentode supressor grid is not counted since it isn't brought out as a separate element (it's tied to the cathode). Where things get a little

confusing is with the early octal types. They were originally designed with the metal shell (or an internal shield) brought out to pin 1, so that was added. Thus you have an octal triode 6C5 as compared to a mini triode 6C4. In the case where all 8 pins were needed for other elements, such as the 6SN7, the element number is what would be expected. Notice that a 6F8 and a 6SN7 are both dual octal triodes, but the 6F8 was an earlier tube and left open pin 1 for a possible shield (even though I don't think it was ever actually used), so it ends in -8 rather than -7. There is also occasional confusion regarding heaters. The rule seems to have been that a center-tapped heater just counts as one element, but a differently-tapped heater (such as a 35W4, whose heater is divided into two nonidentical parts for use in driving a panel light) counts as two elements. A similar octal tube, the 35Z5, counts both it's nonexistent shield and it's two nonidentical heater parts.

73,
Mike, KK6GM

Date: Fri, 8 Nov 1996 10:46:52 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: jlevro@shore.net (John Levreault)
Cc: rdkeys@csemail.cropsci.ncsu.edu ()
Subject: Re: UY227, and other tubes for regen service
Message-ID: <9611081546.AA111490@csemail.cropsci.ncsu.edu>

> Being a newcomer to this business about regeneration, I'm confused by one
> thing: is there any advantage of a triode over a pentode as the regenerative
> detector???

Good question.....

In my experiences, the triode is a) easier to get to regenerate reliably over a wider range, b) simpler to hook up, c) transformer couples easier compared to tetrodes or pentodes.

The ease of regeneration probably comes from the less finnicky requirement for exact coil turns and precise screen/plate voltages in the triode. Triodes have more grid-plate capacity, on average, than tetrodes and pentodes, so are easier to oscillate. That is what you want in a regen detector --- EASE of oscillation. In my hands, the effect of coil turns or taps and screen voltage is pretty sharp. It can be worked out, but requires more fiddling to get right. On the other hand, a simple triode oscillates readily under a great variation in plate voltage, if you use throttle condenser control and/or variable tickler control. So, in my

hands the triodes are the better simple play detectors. But, the tetrodes and pentodes are usually a bit more sensitive or provide more gain in the output, so you play a bit of a game of good smooth regeneration or more gain in the audio via the electron coupling stream between the screen grid and the plate.

The simplicity of hookup of a triode in regeneration makes for easier play in the cut and whack it together department. You don't have to worry about the screen grid circuit and proper bypassing of control resistors, etc. Thus you get by with some 5 or so less parts (resistors, pots, bypass condensers, wires, terminals, etc.).

The triode has a lower plate impedance, and thus lends itself well to transformer or impedance coupling. The tetrode and pentode plate impedances are high enough that only impedance coupling works well.

Generally, a triode set uses three stages for the same gain as two stages of tetrode or pentode tubes. But, for headfone operation, that difference is trivial, and two stages of triodes, operating correctly will give enough headfone oompf to be painful on W1AW, down here. That is more than enough for good hamming. I can put W1AW on a small LS-144 speaker on the two triode set and read it anywhere in the room, and sometimes down the hall. The added gain of the tetrode or pentode set would only be useful for long haul reception or reception on a physically short antenna.

Generally, a triode set operates best on 36-48 volts, and will operate well down to 12 volts on the plate (at least mine do). Tetrode and pentode sets usually require 90 or more volts on the plates to work well. Also, I don't like 90 or more volts on my tin can leads --- that can be a tad dangerous unless the audio is transformer or impedance coupled through a capacitor to the tin cans.

CAUTION: Most early tetrode and pentode regen receivers have live B+
          going through the tin can leads, so exercise caution if using
          voltages greater than about 75 volts on the plate circuits.

One drawback of triodes is that they tend to oscillate heavier than tetrodes and pentodes in coupling to the antenna. That means that it it possible to get a few milliwatts of antenna power out of a triode set more than would be there from a tetrode or pentode set. That is not usually a problem except for hams within a half mile of your QTH or so.

That is all I can think of right now......

73/ZUT DE NA4G/Bob UP

Date: Fri, 8 Nov 1996 08:42:58 -0700
From: jeffd@coriolis.com (Jeff Duntemann)
To: Bob Roehrig <broehrig@admin.aurora.edu>
Cc: glowbugs@theporch.com
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <1.5.4.32.19961108083849.00ee9828@ntserver.coriolis.com>

Bob Roehrig wrote:
>It was quite common to find series/parallel conbination of filament
>wiring. For example say you had 3 tubes with 150ma filaments and
>one of 450ma. You would put the three 150ma jobs in parallel and
>put that combination in series with the 450ma tube.
>
>Most of the tubes that I believe are being talked about here are the
>150 to 300ma variety.

I took a scan through my 1965 RCA receiving tube handbook last night, and it looked like the series string tubes were rated at either 450ma or 600ma. I didn't see any 150ma or 300ma examples, but by no means did I scan them all.

>If you are talking putting filaments in series, if you are considering
>"battery" tubes with directly heated cathodes (1T4, 3V4, etc. types)
>remember that you have to pay attention to bias which is the grid in
>reference to the filament, not a separate cathode.

I never thought of this, but it certainly has to be dealt with, sheesh! I haven't ever done much with the battery tubes, though, at least not since I was a kid in the early Sixties. Finding a 45 volt battery today is by no means a trot down to the drugstore, as it was back then.

--73--

--Jeff Duntemann KG7JF
  Scottsdale, Arizona

Date: Fri, 8 Nov 1996 11:18:17 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: w8lrm@qtm.net
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <9611081618.AA111535@csemail.cropsci.ncsu.edu>

> Remember that any tube you use in a series string must all have the

> same current rating reguardless of voltage on the filiment.

One can adjust current with proper parallel resistances, but that is not practical at our level. It was often done in WWII military sets, tho. Trying to do this makes one always be reaching for the box of low value resistors when you change tube types,..... not fun.

Generally, though, one will design our typical 2 or 3 tube regen set using ONE tube type. Thus, there is design conservancy and practicality, to keep the numbers of spares types down, in using the ONE TRUE tube type (whatever that is, although the generic dual triode works nicely).

The Germans were notorious for doing this in their WWII sets. They could make a complete receiver of very fine operation, out of only one tube type. Alas, the Allies, never seemed to catch on to that design novelty or practicality. The only American set of note to do that was the little Mosley CM-1 receiver which used all 6U8 triode/pentode tubes. Neat rcvr.

The dual triodes are amenable to such service, as are the single triodes. Dual triodes can be wired together as a single triode if desired. Triode/pentodes would get a bit complicated to use in such service.

>From that point of view, then, the seriesing of the tubes is not of much consideration. Practically, one would series 3 each 2 volters to run from a 6 volt battery, or 3 each 4 volters to run from a 12 volt battery, or 3 each 8 volters to run from a 24 volt battery (all of one tube type).

Yes, folks, me do run el biggio batteries 'ere mostly, of 105 AH wet nicad stationary cell type. I can run an 833 off batteries if I need to, and its dynamotor power supply, for a long time.....(:+}}.....
I can muster 36 volts at 105 ah, if need be, anytime it is required. That is probably overkill for what most folks will need or have use for. For most folks, the common car or RV deep cycle battery makes a good generic regen filament source. For small sets, the little 10ah sealed lead acids (they are usually NOT gel cells), work well, but require frequent charging. I do use the 7ah size sealed lead acids for plate batteries, and can muster up 400 volts worth if I need to. Usually 3 each 12 volters are what I use on the regen receivers. The Hartleys use the rest. Occasionally, one can find, in surplus, the individual nicad cells and make up a battery pack for 2 volters or 3 volters or 4 volters or 5 volters or 6 volters or 8 volters or whatever, to suit. Sometimes some judicious scrounging around battery shops will turn up individual lead acid cells (2 volts each) or individual wet nicad cells (1.2 volts each).

Thus, it makes it practical to run regen receivers on battery DC power to get rid of AC filament and B+ hum. (It won't cure stray EMI from

the house wiring, tho.....)

73/ZUT DE NA4G/Bob UP

Date: Fri, 8 Nov 1996 09:04:33 -0700
From: jeffd@coriolis.com (Jeff Duntemann)
To: glowbugs@theporch.com
Subject: Parts alert! Cheap transmitting micas!
Message-ID: <1.5.4.32.19961108090023.00966c50@ntserver.coriolis.com>

Hi gang--

Flipping through the latest All Electronics catalog last night I stumbled across a helluva deal on transmitting mica caps. On page 37 they offer 7 different varieties at 4/$1.00. These look like (from the drawing) the Sprague and Sangamo models from WWII on. Values are things like .002 @ 2500V, .0035 @ 2500V, .005 @2500V, and so on. They have .02 @ 2000V for $1 each. Most are unused, some are removed from equipment.

Those without the catalog should get it; while not a big Glowbug parts supplier they have a lot of modern electronics at good prices. They do have some mica 7 pin miniature tube sockets and both 7 and 9 pin bakelite wafer sockets, and some oddball 1 1/4" long 12V batteries that could be put in series to run a regen. No minimum order but $5 shipping/handling even on small orders.

Spotting things like this is one reason I get so many catalogs and file them with care. I spotted Herbach & Rademan's cache of Miniductor stock about a year ago, but before I got my order in most of the big stuff was gone, and there's nothing left anymore. Got some of the littler stuff, tho.

Here's All:

All Electronics
PO Box 567
Van Nuys CA 91408-0567

1-800-826-5432 orders
818-904-0524 info
http://www.allcorp.com

Mailto:allcorp@allcorp.com

--73--

--Jeff Duntemann KG7JF
  Scottsdale, Arizona

Date: Fri, 8 Nov 1996 11:35:24 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: jeffd@coriolis.com
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <9611081635.AA111560@csemail.cropsci.ncsu.edu>

> I took a scan through my 1965 RCA receiving tube handbook last night, and it
> looked like the series string tubes were rated at either 450ma or 600ma. I
> didn't see any 150ma or 300ma examples, but by no means did I scan them all.

That is not much for a regen series string. 600ma is peanuts even for a
small 10ah sealed lead acid cell. You can get some 10 hours or so of
operation out of a 600ma string from one.

> >If you are talking putting filaments in series, if you are considering
> >"battery" tubes with directly heated cathodes (1T4, 3V4, etc. types)
> >remember that you have to pay attention to bias which is the grid in
> >reference to the filament, not a separate cathode.
>
> I never thought of this, but it certainly has to be dealt with, sheesh! I
> haven't ever done much with the battery tubes, though, at least not since I
> was a kid in the early Sixties. Finding a 45 volt battery today is by no
> means a trot down to the drugstore, as it was back then.

Well, for our generic use, I was generally thinking indirectly heated
cathode type tubes for seriesing. For filamentary types, almost always
run then paralleled, for simple operation not requiring fiddling with funky
biasing resistor networks or such.

Most regen sets do not require biasing in triode operation at lower plate
voltages up to 48 or so. Beyond that, proper C- biasing will be required
on the audio to prevent serious distortion. (Actually, some distortion
is good for CW operation and makes the tone of the signal, ``musical''
as my OM used to say about his early shipboard regen sets.)

On the 22 or 45 volt B battery situation, one can often find the 7 or 10

ah sealed lead acid batteries in surplus around larger cities. They are routinely changed out of emergency lighting systems fairly often, so they can be found with a little hunting. Use 3(6) or 4(8) each for 36 or 48 volts plate supply, depending upon whether or not the 6 or 12 volt batteries are used. Charge with sufficient voltage (usually 2 x battery voltage) through a high wattage current limiting resistance (I use 10 watt lamps) at sufficient current (usually C/10 for 12 hours) to cyclic charge them and they will last a long time. Unfortunately, they are bad for sulfating up if they stand idle too long. They need to be cylcled once monthly or so for best operation. I lost a 300 volt set by letting them sit too long a couple of years back. I put a battery article (batterie.ps) in the BA archives that covers much of this topic if anyone is interested (ftp://ftp.theporch.com/pub/mailing-lists/boatanchors/batterie.ps.gz).

73/ZUT DE NA4G/Bob UP

Date: Fri, 8 Nov 1996 09:50:50 -0600 (CST)
From: Chris Broadbent <cfb@bga.com>
To: jlevro@shore.net
Cc: glowbugs@theporch.com
Subject: Re: Re[2]: UY227, and other tubes for regen service
Message-ID: <199611081550.JAA14835@zoom.bga.com>

>
> >Is there an American equivallent for the ECL86 triode=pentode?
> >I just acquired two of them and they look like they would make a
> >dandy miniature 5-10 watt CW xmtr.
> ...<SNIP>
>
> Yes, the 6GW8, according to the GE Essential Characteristics.
>
> ...<SNIP>

There is a device not unlike the 6GW8 being currently manufactured by Svetlana, namely the 6BM8 (ECL82 - I believe). Vital statistics are:

- Dual device - triode and pentode
- Max 7W pentode plate dissapation
- Max 300V on triode plate, 600V on pentode plate
- 6.3V heater @ ~800mA
- 9-pin mini package (~7cM x ~2cM)

Svetlana seem to have a good reputation and there is no danger of the device being hard to find!

Prices run from $5 to $10, depending on retail outlet (however this is not just for Svetlana, but NOS also).

Just my $0.02 worth.

Cheers,

--

Chris F. Broadbent (KC5VQL)

Date: Fri, 8 Nov 1996 12:35:05 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: glowbugs@theporch.com, boatanchors@theporch.com
Cc: rdkeys@csemail.cropsci.ncsu.edu ()
Subject: BA/GB Net -- this weekend is a cold one (:+}}.....
Message-ID: <9611081735.AA111623@csemail.cropsci.ncsu.edu>

Well, folks, the wx bulletin indicates that it will be COOOOOLD this weekend in much of the North American continent. So, it oughta be good on the bands. Hope folks can make it sometime. I will kick me hind end into high gear and make sure I am there at least some of the time.

QTR 0000Z QRG 7050KHZ
QTR 0100Z QRG 3579R545KHZ
QTR 0200Z QRG 1803R500KHZ

and then anyone anytime until we fall down asleep onto the brass monkey,

QTR 0300Z till whenever QRG 3579R545KHZ or QRG 1802R500KHZ

I keep receivers on both QRG, when I am puttering around the shack.

If the 80M or 160M QRG are hot, fires ye up yer odd an' homebrew stuff, if ye can. Folks might like ta 'ear them thar thingies wat's ye been makin' actually burn a hole or two in de ol' ether.....

Call ``CQ BA CQ BA DE [yourcall yourcall] K'', on the hour for the first three QTR, and then anytime after 0300Z on either of the other QRG. There are enough of us that surely someone will be a' listenin'.....

So, all ye fine Boatanchorites and Glowbuggites..... fires ye up yer glowenbottles, grapples ye up yer tin cans atops yer noggins, an' readys ye yer keys at the fore......

Sees ye on watch, amid de crackle an' din o' de ol' ether, this weekend.

73/ZUT DE NA4G/Bob UP

Date: Fri, 8 Nov 1996 10:37:54 -0700
From: "Deane D McIntyre" <dmcintyr@acs.ucalgary.ca>
To: glowbugs@theporch.com
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <9611081737.ZZ697560@ds1.acs.ucalgary.ca>

In message <9611081618.AA111535@csemail.cropsci.ncsu.edu> writes:
>
> > Remember that any tube you use in a series string must all have the
> > same current rating reguardless of voltage on the filiment.
>
> One can adjust current with proper parallel resistances, but that is not
> practical at our level. It was often done in WWII military sets, tho.
> Trying to do this makes one always be reaching for the box of low value
> resistors when you change tube types,..... not fun.
>
> Generally, though, one will design our typical 2 or 3 tube regen set using
> ONE tube type. Thus, there is design conservancy and practicality, to keep
> the numbers of spares types down, in using the ONE TRUE tube type (whatever
> that is, although the generic dual triode works nicely).
>

What about having all three triodes in one bottle, such as used in
some colour TV tubes?

Some types that should work are 6C10 6D10 6AC10 6AK10 6U10 8AC10
and so forth. All are compactrons I think with seperate cathodes
for each triode.

Anyone done this?

73, Deane D McIntyre VE6BPO
dmcintyr@acs.ucalgary.ca

Date: Fri, 8 Nov 1996 13:44:28 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: dmcintyr@acs.ucalgary.ca
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com

Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <9611081844.AA111662@csemail.cropsci.ncsu.edu>

> What about having all three triodes in one bottle, such as used in
> some colour TV tubes?

This would work fine. It makes for some crowded wiring.

> Some types that should work are 6C10 6D10 6AC10 6AK10 6U10 8AC10
> and so forth. All are compactrons I think with seperate cathodes
> for each triode.

There is also a 9 pin triple triode, that might be workable --- 6GY8.
It is a little strange, tho.

The 6AV11, 6K11 and 6Q11 should work as triple triodes.

One could get really exotic and use a dual-triode/pentode, perhaps,
like the 6BD11. Use the first triode as regen detector, the second
as audio driver and the pentode as audio output.

> Anyone done this?

Myself, no, because I don't like wiring so tight that if I blink I have
unsoldered the wrong wire. I tend to prefer wiring that you can read
the schematic right off the wiring. That is a bit tough with very
compact/crowded tubes.

There was a thing using a 6D10 compactron in a receiver in Popular
Electronics, about 1970 or so. I may still have the article somewhere.
It was billed as a 1 tube short wave receiver. As a young squirt, I
was interested in building it, but did not have the parts available
handy enough at any one time..... were only a geek novice back then.....

73/ZUT DE NA4G/Bob UP

Date: Fri, 8 Nov 1996 12:19:10 -0700
From: jeffd@coriolis.com (Jeff Duntemann)
To: rdkeys@csemail.cropsci.ncsu.edu
Cc: glowbugs@theporch.com
Subject: Re: Thought for junkotvscrappo tubes
Message-ID: <1.5.4.32.19961108121500.00f1ebb4@ntserver.coriolis.com>

>There was a thing using a 6D10 compactron in a receiver in Popular
>Electronics, about 1970 or so. I may still have the article somewhere.
>It was billed as a 1 tube short wave receiver. As a young squirt, I
>was interested in building it, but did not have the parts available
>handy enough at any one time..... were only a geek novice back then.....

You were ahead of me. But it was in 1964 or 1965, and I did build it, (tho
I think the tube is a 6U10) and still have the circuit, in some kind of GE
"Hobby Handbook" published in 1967.

NOT a good ham receiver, tho it works well for SWBC.

--73--

--Jeff Duntemann KG7JF
  Scottsdale, Arizona

Date: Fri, 8 Nov 1996 15:58:08 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: rdkeys@csemail.cropsci.ncsu.edu (rdkeys)
Cc: jlevro@shore.net, glowbugs@theporch.com
Subject: Re: UY227, and other tubes for regen service
Message-ID: <9611082058.AA111738@csemail.cropsci.ncsu.edu>

>
> > ...and thanks for a lot of good answers, especially the part about the
> > impedance coupling of a pentode vs. resistance coupling of the triode. I've
> > been having trouble finding those 1000H chokes!
>
> I get good coupling with a 10-20h choke and a 0.25-2uf capacitor.
> That seems to work as good as the magic 1000h+0.01uf National coupler.
>
> Bob/NA4G

I did a series of experiments on a 6J5 amplifier at 12 volts plate, last
weekend. I will report more later, but the gist was that using a 5, 10,
or 20 henry choke as the audio coupling impedance, measuring the output
with a vtvm from a 440hz input sine wave, I got max output at about 0.25uf
coupling cap, where it tapered off to about 10uf coupling cap. Below
0.25uf, the output was markedly reduced. At 0.25uf and above, the
output was essentially flat at 4 volts AC. To me, that means that
one can successfully impedance couple with lower value inductances and
higher value capacitances than traditionally used in the infamous
1000 henry choke + 0.01 uf capacitor National audio interstage coupler.

Works fine for me, and much more common that that mythical National coupler.

73/ZUT DE NA4G/Bob UP

Date: Fri, 08 Nov 1996 16:42:10 -0400
From: Tom Bowman <tbowman@nbn.net>
To: glowbugs@theporch.com
Subject: NC-121 diagram
Message-ID: <2.2.32.19961108204210.006c4438@nbn.net>

I'm looking for a diagram to show how to rewind dial cord on both the bandspread and main tuning
dials of a National NC-121.

It's for my friend and he swears the rcvr is an NC-121.

While I've seen schematics for other National models, I can't find a print for the NC-121.

If anyone has this animal and would be kind enough to make me copies of the re-stringing
that needs to be done, I will gladly pay.....

thanks in advance....

Tom
WA3REY

Tom Bowman, WA3REY <><> Mount Gretna, PA 17064 tbowman@nbn.net

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Date: Fri, 8 Nov 1996 16:16:46 -0600
From: Guy Dragoo <gdrag@proedge.com>
To: "'Glowbugs'" <glowbugs@theporch.com>,
Subject: Keyers FS
Message-ID: <01BBCD90.5A9ACDE0@ft249.computek.net>

Howdy Listmembers'

I have the following Keys For Sale:

Vibroplex Brass Racer (triangular brass) with built in
electronic keyer (Curtis chip) built in wood base w/box
(powered by internal battery and needs new battery...available
at Radio Shack)....$85 ($130 new)

Ten-Tec KR 670 Keyer and Iambic paddle combo in a small package....$45

Unusual Iambic Keyer with built in oscillator (and speaker) with speed
and volume adjustments (headphone out too). Multiple key adjustments
(several) and a very sturdy rig (steel enclosure) w/box and schematic.
Runs on batteries (2 D-cells-which leaked at one time...all corrosion
internal and caused removal of paint on inside but not outside) or
external power input and will work as a stand alone code practice
oscillator or has outputs for keying rig....$45

All units work fine tho have normal cosmetic flaws (read as used but not
abused). Prices do not include shipping.
Thanks and 73
Guy AC5HL

Date: Fri, 8 Nov 1996 15:45:42 -0700 (MST)
From: toyboat@freenet.edmonton.ab.ca
To: John Levreault <jlevro@shore.net>
Cc: Multiple recipients of list <glowbugs@theporch.com>
Subject: Re: Re[2]: UY227, and other tubes for regen service
Message-ID: <Pine.A41.3.95.961108153352.64358A-100000@fn2.freenet.edmonton.ab.ca>

On Fri, 8 Nov 1996, John Levreault wrote:

> >Is there an American equivallent for the ECL86 triode=pentode?
> >I just acquired two of them and they look like they would make a
> >dandy miniature 5-10 watt CW xmtr.
> >**
> >*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
> >** E-mail to: bry@mnsinc.com   *
> >*** See the great ham radio resources at: *
> >** http://www.mnsinc.com/bry/   *
> >**

> Yes, the 6GW8, according to the GE Essential Characteristics.
>
> 73 de NB1I
> John Levreault

  Hello,

6GW8 Eh? There is a very nice little 6GW8 MOPA rig in QST, February, 1966 called the "Mighty Midget" by Lewis McCoy.

Built into a 6" cube minibox, it has an input of 10 watts.

Very nice. If I had scanning facilities, I would e-mail same, but I am PC challenged :-). Perhaps it could find its way into the archives by another contributor, if interest exists?

Shane

End of GLOWBUGS Digest 346
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